Title (en)
IMAGING DEVICE

Title (de)
BILDGEBUNGSVORRICHTUNG

Title (fr)
DISPOSITIF D'IMAGERIE

Publication
EP 2296368 B1 20170104 (EN)

Application
EP 09758129 A 20090604

Priority
• JP 2009002537 W 20090604
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Abstract (en)
[origin: EP2296368A1] Charge generated in a photodiode is properly split for difference processing. An imaging element is constituted by a semiconductor such that a charge accumulation portion is connected to a light receiving portion using a buried photodiode and charge is split from the charge accumulation portion by a plurality of gates and is accumulated. An imaging device includes a control device performing control so as to accumulate charge that is generated by a photoelectric conversion at an exposure cycle synchronous with the light emission of a light source. The exposure cycle includes a first period for receiving reflection light from a subject illuminated by light from the light source and a second period for receiving light from the subject illuminated by an environmental light not including the light from the light source. The imaging device includes a charge accumulation region connected to each photoelectric conversion region, a first charge storage region for receiving charge generated in the photoelectric conversion regions during the first period via the charge accumulation portion, and a second charge storage region for receiving charge generated in the photoelectric conversion regions during the second period via the charge accumulation portion.

IPC 8 full level
H04N 5/335 (2011.01); **G02B 7/40** (2006.01); **H01L 27/146** (2006.01); **H04N 5/232** (2006.01); **H04N 5/3745** (2011.01); H04N 5/235 (2006.01)

CPC (source: EP US)
H01L 27/14603 (2013.01 - EP US); **H04N 23/74** (2023.01 - EP US); **H04N 25/00** (2023.01 - EP US); **H04N 25/771** (2023.01 - EP US)

Citation (examination)
WILBURN B ET AL: "High-speed videography using a dense camera array", PROCEEDINGS OF THE 2004 IEEE COMPUTER SOCIETY CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION 27 JUNE-2 JULY 2004 WASHINGTON, DC, USA, IEEE, PROCEEDINGS OF THE 2004 IEEE COMPUTER SOCIETY CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION IEE, vol. 2, 27 June 2004 (2004-06-27), pages 294 - 301, XP010708595, ISBN: 978-0-7695-2158-9, DOI: 10.1109/CVPR.2004.1315176

Cited by
EP2445008A1; EP3605016A4; EP2519001A3; US8860861B2; US11509847B2; US9001245B2

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DOCDB simple family (publication)
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DOCDB simple family (application)
EP 09758129 A 20090604; JP 2009002537 W 20090604; JP 2010515783 A 20090604; KR 20107026972 A 20090604; US 99591309 A 20090604